



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN 16 2016

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

The Honorable Vanessa Allen Sutherland
Chairperson, U.S. Chemical Safety and Hazard Investigation Board
1750 Pennsylvania Ave., NW Suite 910
Washington, D.C. 20006

Dear Ms. Sutherland:

Thank you for your letter of November 19, 2015, to Environmental Protection Agency (EPA) Administrator Gina McCarthy containing the CSB's recommendations from its investigation of the October 23, 2009, explosions and fire at the Caribbean Petroleum Corporation (CAPECO) facility in Bayamon, Puerto Rico. Administrator McCarthy asked me to respond on her behalf.

In your investigation report, you issued the following three recommendations to EPA:

CSB Recommendation No. 2010-02-I-PR-R1:

"Revise where necessary the Spill Prevention, Control and Countermeasure (SPCC); Facility Response Plan (FRP); and/or Accidental Release Prevention Program (40 CFR Part 68) rules to prevent impacts to the environment and/or public from spills, releases, fires, and explosions that can occur at bulk aboveground storage facilities storing gasoline, jet fuels, blendstocks, and other flammable liquids having an NFPA 704 flammability rating of 3 or higher.

At a minimum, these revisions shall incorporate the following provisions:

- a) Ensure bulk above ground storage facilities conduct and document a risk assessment that takes into account the following factors:
 - 1) The existence of nearby populations and sensitive environments;
 - 2) The nature and intensity of facility operations;
 - 3) Realistic reliability of the tank gauging system; and
 - 4) The extent/rigor of operator monitoring
- b) Equip bulk aboveground storage containers/tanks with automatic overfill prevention systems that are physically separate and independent from the tank level control systems.
- c) Ensure these automatic overfill prevention systems follow good engineering practices.
- d) Engineer, operate, and maintain automatic overfill prevention systems to achieve appropriate safety integrity levels in accordance with good engineering practices, such as Part I of International Electro-technical Commission (IEC) 61511-SER ed 1.0B-2004, "Functional Safety – Safety Instrumented Systems for the Process Industry Sector."

- e) Regularly inspect and test automatic overfill prevention systems to ensure their proper operation in accordance with good engineering practice.”

CSB Recommendation No. 2010-02-I-PR-R2:

“Conduct a survey of randomly selected bulk aboveground storage containers storing gasoline or other flammable liquids with a NFPA 704 flammability rating of 3 or higher, at terminals in high risk locations (such as near population centers or sensitive environments) that are already subject to the Spill Prevention, Control and Countermeasure (SPCC) and/or Facility Response Plan (FRP) rules to determine:

- a) The nature of the safety management systems in place to prevent overfilling a storage tank during loading operations. Analysis of the safety management systems should include equipment, training, staffing, operating procedures and preventative maintenance programs.
- b) The extent to which terminals use independent high level alarms, automated shutoff/diversion systems, redundant level alarms or other technical means to prevent overfilling a tank
- c) The history of overfilling incidents at the facilities, with or without consequence
- d) Whether additional reporting requirements are needed to understand the types of incidents leading to overfilling spills that breach secondary containment and have the potential to impact the environment and/or the public, as well as the number of safeguards needed to prevent them.”

CSB Recommendation No. 2010-02-I-PR-R3:

“As an interim measure, until the rule changes in CSB Recommendation No. 2010-02-I-PR-R1 are adopted and go into effect: issue appropriate guidance or an alert, similar to EPA's previously issued Chemical Safety Alert addressing "Rupture Hazard from Liquid Storage Tanks," to illustrate the hazards posed by spills, releases, fires and explosions due to overfilling bulk aboveground storage containers storing gasoline, jet fuel, blendstocks, and other flammable liquids having an NFPA 704 flammability rating of 3 or higher.”

EPA suggests alternative approaches for recommendations 1 and 2, and accepts recommendation 3. The Agency position on these recommendations is described in detail below. In general, the Agency notes that root cause(s) of the CAPECO event have yet to be determined. While the recommendations put forward in the CSB report focus on the consequences of container overfill incidents, the undesirable circumstances leading to a reoccurrence may still be present.

In recommendation R1, the CSB prescribed a very specific set of regulatory provisions, some of which are already present in federal regulations and fire code requirements applicable to gasoline storage terminals. For example, the regulatory revisions in recommendation R1 include: “Ensure bulk above ground storage facilities conduct and document a risk assessment” that accounts for nearby populations and sensitive environments, the nature of facility operations, tank gauging, operator monitoring, etc., and “Equip bulk aboveground storage containers/tanks with automatic overfill prevention systems...”

EPA acknowledges existing SPCC and FRP regulations (40 CFR part 112) do not contain some of the specific provisions contained in recommendation R1. For example, they do not currently require terminals to use overfill prevention systems that are “physically separate and independent” from level control systems. Under section 311(j)(5) of the CWA, as amended by the 1990 Oil Pollution Act (OPA), facilities that could cause substantial harm as a result of an oil discharge are required to prepare, implement, and submit a Facility Response Plan (FRP) to respond to a worst case discharge of oil. An FRP must include a hazard evaluation and vulnerability analysis that shall address the potential effects of an oil discharge on human health, property, or the environment, including the probability of a chain reaction of failures. Specifically, as required by 40 CFR part 112, Appendix F, Section 1.4, this analysis must discuss the vulnerability of water intakes, schools, medical facilities, residential areas, businesses, recreational areas, and wetlands or other sensitive environments. The hazard evaluation must also include a hazard identification that describes the day-to-day operations that may present a risk of discharging oil. Similarly, the SPCC rule, at 40 CFR part §112.8(c)(8), currently requires overfill prevention. All facility owners and operators must engineer or update each container installation in accordance with good engineering practice to avoid oil discharges. Additionally, the SPCC plan itself (which includes this overfill prevention requirement) must be certified by a Professional Engineer (PE) to ensure the Plan was prepared in accordance with good engineering practice, including consideration of applicable industry standards, with the requirements of this part and that the Plan is adequate for the facility (per §112.3(d)).¹ EPA emphasizes these requirements through various outreach efforts including at national-level conferences and training courses and will include a discussion of these requirements in the guidance document developed as part of the CSB recommendations.

EPA notes CSB issued similar regulatory, code and standard/recommended practice recommendations to EPA, the Occupational Safety and Health Administration (OSHA), the International Code Council, the National Fire Protection Association (NFPA), and the American Petroleum Institute (API). EPA will consult with the International Code Council, NFPA, and API as they develop changes to their respective fire prevention codes/regulations and industry standards/recommended practices that may result from CSB’s recommendations. Ultimately, EPA will evaluate these changes and then determine whether regulatory amendments are necessary that are consistent with the standards and/or regulations of each organization subject to these recommendations. It is important to note that PEs are required to consider these newly amended codes and standards when certifying that SPCC plans. Specifically a PE must certify that the SPCC plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards. As mandated by the Federal Water Pollution Control Act (FWPCA), the purpose of the SPCC rule is to prevent oil discharges to navigable waters or adjoining shorelines and has not been a regulation used to address fire prevention issues.

Recommendation R2 calls for EPA to conduct a survey to determine whether additional reporting requirements and safeguards are needed to understand and prevent these accidents. At this time, it is unclear that a survey would yield sufficient information on which to base

¹ While not applicable to the facilities at issue here, certain small-quantity oil facilities may self-certify their SPCC plans.

rulemaking. Instead, EPA will determine whether there are potential ways to collect information, perhaps through information requests or during future inspections, regarding these kinds of incidents that could be used to point to specific regulatory gaps that potentially need to be addressed rather than conducting a formal survey at this time. EPA will continue to consider conducting the recommended survey as other methods to collect information are evaluated.

In this regard, also relevant to Recommendation R1, EPA is currently revising the RMP regulation consistent with Executive Order (EO) 13650, *Improving Chemical Facility Safety and Security*, and has issued proposed regulatory amendments (81 FR 13637, March 14, 2016). EPA's RMP proposal reflects substantial input from stakeholders on the elements of the proposed rule to improve chemical process safety, assist local emergency authorities in planning for and responding to accidents, and improve public awareness of chemical hazards at regulated facilities. In developing the proposal, The EO Working Group, led by the EPA, the Department of Homeland Security (DHS), and OSHA held multiple listening sessions, webinars, and meetings with stakeholder groups to solicit feedback on issues related to chemical facility safety and security. In addition, the Working Group published a preliminary list of options for improving chemical facility safety and security for stakeholder comment. In the EO 13650 Report for the President (published May 2014) entitled *Actions to Improve Chemical Facility Safety and Security – A Shared Commitment*, modernizing the RMP rule was identified as one of the top priorities to improve chemical facility safety and security. The report committed the EPA to conduct a request for information (RFI) to gather input and begin the regulatory process to modernize the RMP. On July 31, 2014, EPA issued an RFI, seeking comment on potential revisions to modernize its regulations, guidance, and policies. Since the publication of the RFI, we have held numerous outreach meetings with industry groups and non-governmental organizations and collected information through a Small Business Advocacy Review Panel. Public comments received through these means – including comments on the RFI received from the CSB – did not include significant support for extending regulatory coverage under the RMP regulations (40 CFR 68) to bulk aboveground storage facilities storing flammable substances with an NFPA 704 (*Standard System for the Identification of the Hazards of Materials for Emergency Response*) flammability hazard rating of 3, and therefore the recently proposed modifications did not include this change. EPA will consider your recommendation for other potential future modifications to the Chemical Accident Prevention Provisions codified at 40 CFR Part 68.

Regarding recommendation R3, EPA agrees that issuing appropriate guidance to illustrate the hazards of overfilling bulk flammable liquid storage tanks would help to prevent such releases or discharges. The Agency intends to develop such guidance, or to modify existing guidance as appropriate, in order to highlight these hazards and further emphasize existing requirements for risk assessment and analysis for FRP facilities through national and regional-level outreach. EPA would undertake this effort after evaluating the outcome of changes to the fire prevention codes/regulations and industry standards/recommended practices that result from CSB's recommendations.

Thank you again for your letter. If you have any questions regarding our response, please contact me at 202-564-8600 or Craig Matthiessen, Director, Regulations Implementation Division (RID) in the Office of Emergency Management (OEM) at 202-564-8016.

Sincerely,

A handwritten signature in black ink, appearing to read "Reggie Cheatham". The signature is fluid and cursive, with a long horizontal stroke extending to the left.

Reggie Cheatham, Director
Office of Emergency Management